

from the ravages of these horrid maggots are proof of a thriving condition! A correspondent writes me: "Since reading recent issues on the ox-bot or warble-fly. I have visited several cattle markets and slaughter-houses to see for myself if the ravages of the maggots are so serious as the statements led one to believe. I must frankly state that what I have seen convinces me that the statements are much under the mark rather than over it. The first beast I handled showed 42 warbles, some only 3 to 6, whilst many others showed 30 to 70; and on examining hides at slaughter-houses this state of things was again confirmed (the warbles are more readily seen upon the *under*-side of the skin, and many are small ones that would not show as a lump. I am certain a farmer has only once to make such a visit to be not only convinced of the great loss, but also, if he has any neighbourly feeling about him, to make him call the attention of his brother-farmers to the subject."

I am anxious to indorse this recommendation, for the farmers should now satisfy themselves as to the actual state of the matter, as in a few weeks from now the warble lumps will have vanished, and I fear the farmers will hardly take protective measures during the summer, when the warbles are not visible, unless they are convinced; whilst seeing would be believing. I may remark that the following simple remedies are all efficacious to destroy the maggots: mercurial ointment and carbolic oil, to be applied with caution by a careful man; or, better still, quoting from the Report of the Royal Agricultural Society, "As a general application, safe in all hands, McDougall's preparation has proved excellently useful," and I have convinced myself it is the best and safest remedy that can be applied, not only for destroying the maggots, but, later on, as a wash to prevent the attacks of the flies. I would not have occupied so much of your space, but I am convinced this is a subject of national importance.

JOHN WALKER

Southport

P.S.—Farmers wishing for further information should read "Observations on Ox-Warble or Bot-Fly," 1884, and a second Report on "Ox-Warble or Bot-Fly," 1885, by Eleanor A. Ormerod, F.R. Met. Soc., &c. (London: Simpkin, Marshall, and Co.), and a new pamphlet called "The Bot-Fly," just issued by J. C. Jack, Grange Publishing Works, Edinburgh. This work fully defines every minute detail of the history, life, prevention, and losses sustained by the dreaded pest.

Aurora

THE remarkable *aurora borealis* observed by Prof. Piazzini Smyth at Edinburgh on July 27 (NATURE, vol. xxxiv, p. 312) seems to have been visible over a very great area. In my meteorological journal it is remarked on July 27 that the bright silver-clouds appeared beautiful between 9.30 and 11 p.m. "The colour of the northern sky above the silver-clouds was misty and brownish, though not cloudy." I had never seen such a tint in the sky. I have no hesitation in saying that the unusual darkness was the same as observed at Edinburgh. The fair white arc I did not see; clouds came up at midnight. It may be interesting to state that I also saw, on July 26 at 9.30 p.m., an aurora-like white cloud in the north-west. This cloud was very different from the well-known silver-clouds so often described in 1885 and 1886. On the 28th and 29th nothing extraordinary is mentioned in my journal, but on the 30th faint traces of the silver-clouds and again "a very strange yellow-brownish colour of the north and north-west sky" are remarked. The great aurora on March 30 we also observed very well at Königsberg.

F. HAHN,

Professor of Geography at the Königsberg University
Königsberg, Prussia, October 25

Earthquakes

It is always interesting to look for coincidences in the earthquakes in different parts of the world. In NATURE, vol. xxxiv, p. 627, you announce that a violent earthquake was felt at Charleston and many other places in the United States of North America, on the 22nd inst. at 3 o'clock in the afternoon, *i.e.* 20h. 20m. Greenwich time. On the same day a very slight shock is recorded as having occurred at Neuchâtel, Switzerland, at 9h. 20m. evening, Berne time, *i.e.* 20h. 50m. Greenwich time. It is not impossible, but I must confess scarcely probable,

that the faint shock at Neuchâtel was the re-percussion of the severe earthquake of North America.

F. A. FOREL

Morges, Switzerland, October 31

IN connection with Prof. O'Reilly's letters in NATURE of October 14 and 28 (pp. 570, 618), and your notice of October 21 (p. 599), I supply a few data, which at first I thought of too little interest for your columns. At 6.12 p.m. local time (17h. 41m. universal time), on October 16, two shocks occurred with a short interval, the direction being approximately that of the meridian. The intensity was such as might be produced by very heavy carts pa-sing.

H. DU BOIS

Strasburg, October 31

Meteor

THIS evening, at about 8.25, I saw a magnificent meteor, of a blue colour, falling a little to the left of the Pleiades.

Belfast, October 31

JOSEPH JOHN MURPHY

FREDERICK GUTHRIE

FREDERICK GUTHRIE was born in Bayswater on October 15, 1833, and was the youngest of six children. His father, Alexander Guthrie, was a tailor, carrying on business in New Bond Street, and is said to have been a man of literary taste and ability; that he was a man of cultivation is shown by the education he provided for his children, one of whom, Francis, early distinguished himself at University College, London, and at the London University, as a mathematician, and is now Principal of the South African College, Cape Town. As a boy, Frederick Guthrie was taught privately until his twelfth year by the late Henry Watts, F.R.S.; afterwards he was sent to University College School, then under the head-mastership of Prof. Key, whence he passed into University College, London. There he remained three years, the last two of which were devoted mainly to the study of chemistry, under Profs. Graham and Williamson, and of mathematics under De Morgan, a teacher with whom it was impossible for a young man of Guthrie's power to come into contact without receiving a life-long impress. There also he again came into contact with Watts, who was then principal assistant in Prof. Williamson's laboratory, and an intimate friendship was cemented with his old tutor that remained unbroken till the death of the latter. In the spring of 1854 Guthrie went to Germany to continue his chemical studies, and worked first at Heidelberg, under Bunsen, and then at Marburg, under Kolbe, where he took the degree of Doctor of Philosophy ("*summa cum laude*") in 1855, having previously graduated as Bachelor of Arts of the University of London. After returning to England he was appointed, in 1856, assistant to Dr. Frankland, then Professor of Chemistry in Owens College, Manchester. In 1859 he went to Edinburgh as assistant to the late Vice-President of the Council, who had just succeeded Dr. William Gregory as Professor of Chemistry in the Edinburgh University.

Two years later Guthrie accepted the Professorship of Chemistry and Physics in the Royal College, Mauritius. He arrived in the island in May 1861, and for six years he devoted himself to endeavouring to introduce and establish on a durable basis scientific instruction in the colony. Here one of his colleagues was Mr. Walter Besant, the eminent novelist, with whom he formed a friendship that remained intimate and uninterrupted through life. He returned to London on leave in 1867, and in 1869 he was elected Lecturer on Physics in the Royal School of Mines, a post which, with extended duties and modified title, he retained till his death.

In the spring and early summer of this year many of Guthrie's friends remarked upon his looking ill and seeming to be in low spirits. After a while he complained of a difficulty in swallowing, which presently became so